

Playing Popular Science

August 3rd – 7th 2016

1st Joint Conference of DiGRA and FDG, Dalhousie Building, Dundee

Dare Indie Fest, Caird Hall, Dundee

Robin J.S. Sloan, Helen Dooley, Erik Gauger,
Brian Quinn, Alasdair Rutherford, Adrian Saurin

With support from Scottish Crucible





Popular science is a critical form of science communication and dissemination. While scientific journals and textbooks are well suited to dissemination of detailed theories and findings within academic communities, there is a definitive need to inform the general public of key scientific concepts and challenges. Indeed, this is increasingly seen as a central part of any research project or funding bid: in the United Kingdom, the Research Councils stipulate a need to consider public engagement and outreach in research proposals.



For scientists, the popular science book has long been a medium of choice, primarily because they already have a great deal of experience in writing. But in recent years scientific researchers have been increasingly engaged with other forms of popular science communication, including radio and television broadcasting. Early careers researchers are now provided with training in these areas, including guidance on how to develop programme proposals and how to write, present, direct, and edit materials for print, the airwaves, and screen. In effect, today's scientists are expected to engage directly with popular science journalism not merely as scientific advisors, but as the writers, directors, and broadcasters.



Playing Popular Science was a peer-reviewed game design event that took place at the 1st Joint Conference of DiGRA/FDG (August 3rd). This event involved an exhibition and discussion of four popular science games, co-designed by scientific experts and designed and developed by students at Abertay University. The four games were:



Namaka by Crowbar Games
Co-designed by Ecotoxicologist Dr Brian Quinn



Tides: A Shark Tale by Benthos Games
Co-designed by Immunologist and sharks expert Dr Helen Dooley



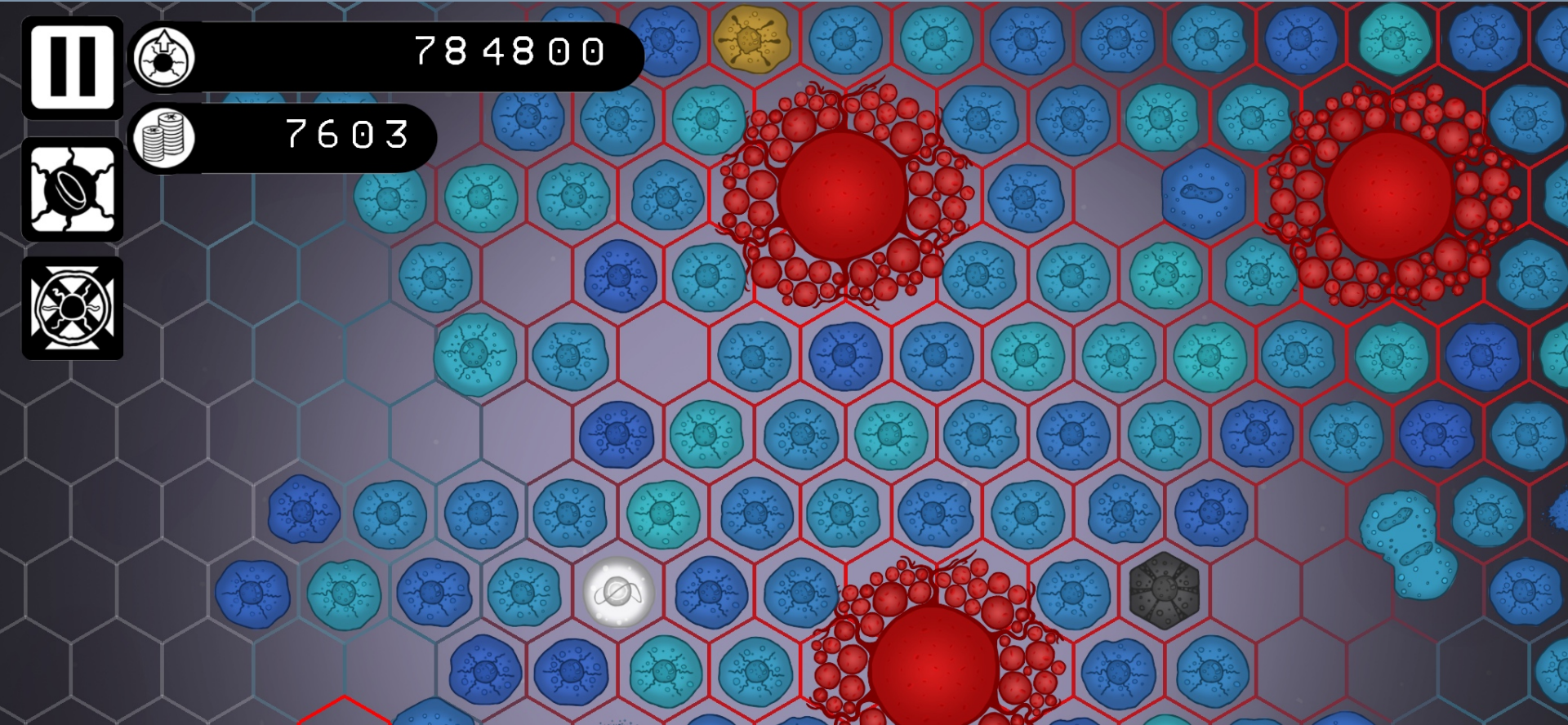
Orbs by Quantessential Games
Co-designed by Quantum Physicist Dr Erik Gauger



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Cell Cycle by Type 3 Games

Co-designed by Cell Biologist and cancer researcher Dr Adrian Saurin



Presentations by game development teams at DiGRA/FDG, August 3rd 2016
Orbs (top left), **Cell Cycle** (top right), **Namaka** (bottom left), **Tides** (bottom right)

Game posters exhibited at DiGRA/FDG, August 3rd 2016

NAMAKA

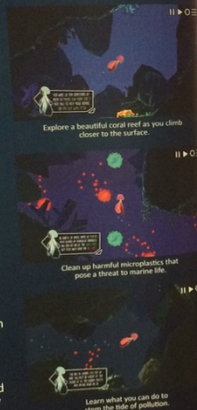
NAMAKA BRINGS ATTENTION TO THE EVER-WORSENING ISSUE OF MICROPLASTICS IN THE WORLD'S OCEANS. IN KAI THE JELLYFISH ON HIS UNDERWATER JOURNEY, AS HE DISCOVERS THE SOURCE OF THE POLLUTION THAT THREATENS THIS FRAGILE ECOSYSTEM.

Within the field of toxicology there is growing concern regarding the introduction of 'microplastics' (very small fragments of plastic) into the aquatic environment.

There are two types of microplastic. Primary microplastics are designed and manufactured to be very small in size. Secondary microplastics are formed by the breakdown of larger plastic items.

In our day to day lives there are plenty of ways we can introduce these plastics into the environment without even knowing it.

Namaka aims to raise awareness of the sources of these microplastics and the potential impact they can have on animal life.



Freddie Pittner (Artist), Stewart Pat (Artist), Gordon Thompson (Designer), Jeremy Adair (Character Artist and Animator), Steve Hutchinson (Programmer), Philip Gull (Designer), David Stranghan (Programmer), Steve Hutchinson (Programmer), Gavin Roche (Producer), Chris (QA/QC) (QA/QC Designer), Dr Brian Quinn (Scientific Advisor), Lee Shaw (Industry Mentor) Dr John Donald (Team Supervisor), Dr Robin Sloan (Project Supervisor)

TIDES

A SHARK TALE

What if sharks had to save themselves?

Over 30 shark species live in British waters, but more than half are under threat of extinction as a result of human action.

In Tides: A Shark Tale, you take on the role of a spotted catshark on a quest to save fellow sharks from the dangers from above.

Using your special shark senses, you can explore the ocean, help sharks in need, and find out more about different shark species.

The Sharkies

Collect and store information about sharks - access your Sharkies on the go with the standalone Sharkies app!

Friendly sharks

Discover that there's more to sharks than their teeth!

Shark abilities

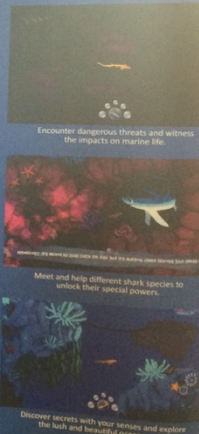
Meet a range of British sharks and learn how to use their unique abilities

Real-life threats

Encounter hazards and complete quests in game that are inspired by the real threats that sharks face

Vibrant ocean world

Explore a beautiful ocean environment and uncover secrets with your senses using the controller's rumble feature



Hannah Aiken (Designer), Mark Philip (Producer), Alexander Scott (Environment Artist), Ade Cross (Programmer), Henry Pullan (Programmer), Domenico Leone (Audio Producer), Dr Helen Dooley (Scientific Advisor), Dr Robin Sloan (Project Supervisor)

Cell Cycle

Cancer is an internal battle fought by rogue cells that attempt to break free from their confines within the body. They seek only one thing - unrestricted proliferation - and they will stop at nothing to get their own way.

Cell Cycle is a grid-based strategy game that aims to raise awareness of the factors that impact on the development of aggressive and rebellious cells.

Starting with a single item cell, you are tasked with controlling an expanding cell population. You must grow your population as large as you can whilst watching out for mutations.

Mutations will occur naturally at the time, but watch out for any dangerous mutations that might threaten your cell population!



Kieran Taylor (Producer), Michael Laine (Designer), Oliver McArthur (Artist), Roberto Fontana (Artist), Andrew Brown (Audio), David McArthur (Artist), David Parnham (Programmer), Thomas Heger (Programmer), Dr Adrian Smith (Scientific Advisor), Dr Robin Sloan (Project Supervisor)



ORBS

Researchers have learned how to replicate the effects of quantum mechanics at a macro level, but the facility housing their experiment has started to collapse!

Quantum mechanics ranks amongst the most successful scientific theories ever developed. It provides the fundamental description of Nature and underpins all of the natural sciences.

However, quantum mechanics remains wonderfully weird and confusingly counterintuitive. Even quantum researchers struggle to develop an intuitive understanding of this theory.

In Orbs, you take control of a scientist fleeing a collapsing facility. Equipped only with a pair of experimental entangled orbs, the player must solve quantum puzzles in order to escape.

By playing Orbs, players will learn about the weird and wonderful world of quantum mechanics.

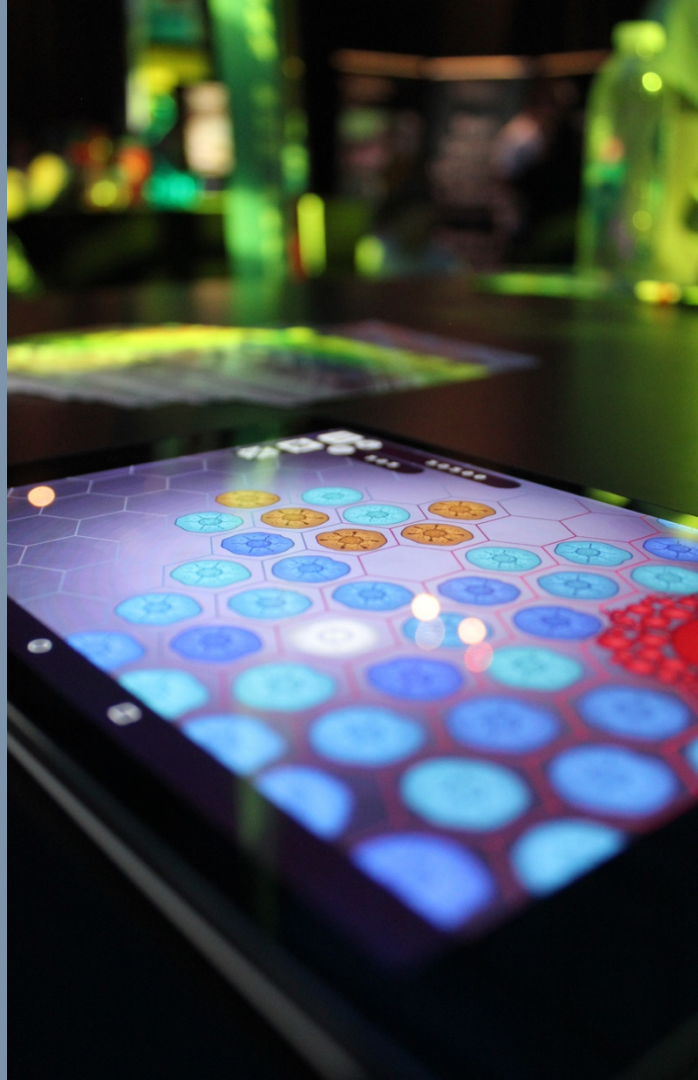


Thomas MacDonald (Producer), Sam Amosworth (Programmer), Aaron Shaw (QA/QC), Jenny Mutton (Artist), Dr Robin Sloan (Project Supervisor)

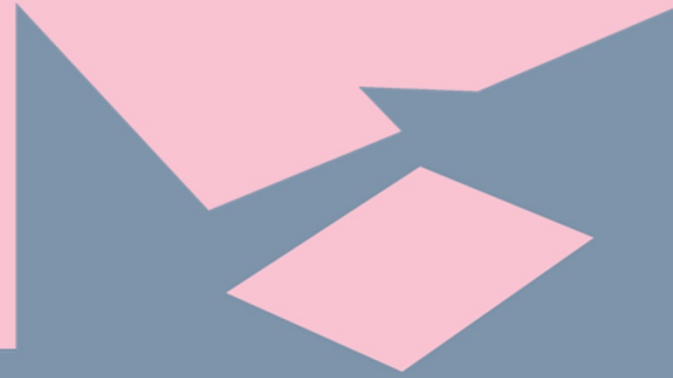


Game demos presented at DiGRA/FDG, August 3rd 2016

Following presentations and demos at the DiGRA/FDG conference, the Playing Popular Science development teams exhibited at the Dare Indie Fest in the Caird Hall, Dundee (August 4th-7th)



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